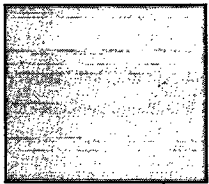
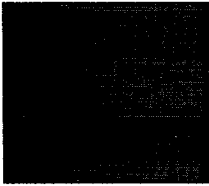


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CALFED  
BAY-DELTA  
PROGRAM



# The CALFED Bay-Delta Program

## Response to Scoping Comments

August 1996



CALFED  
BAY-DELTA  
PROGRAM

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## Memorandum

Date: August 23, 1996

To: Interested Parties

From: Lester A. Snow, Executive Director

Subject: *The CALFED Bay-Delta Program Response to Scoping Comments*

The CALFED Bay-Delta Program is a joint state-federal effort to develop long-term solutions to problems of the Sacramento/San Joaquin Bay-Delta system. The solution-finding effort focuses on ecosystem quality, water supply reliability, water quality and the integrity of the Bay-Delta system. On September 3, 1996, the Program will recommend a set of solution alternatives containing a wide array of potential actions to undergo subsequent detailed analysis during the environmental review phase.

During the months of April and May 1996, the Program held a series of public meetings and an all-day workshop which were designed to explain the alternatives under consideration at that time, and to solicit comments from the public about these alternatives. Over 700 people attended one or more of these events, many of whom expressed ideas, concerns, or suggestions for the Program. In addition, we received hundreds of comment letters about the Program and about the alternatives at each stage of their development over the past several months.

The enclosed document, *The CALFED Bay-Delta Program Response to Scoping Comments*, is a summary of these many comments and includes our response to many of the issues raised. The hundreds of comments received in recent months are synthesized by category to identify and highlight issues. While each of the individual comment letters and oral comments are part of our record and have been reviewed by Program staff, it would be impossible to list each specific comment received. However, a large number of comments expressed ideas and or concerns similar to other comments received. This made it possible for us to respond to a great number of individual comments in this summarized format.

I wish to express my appreciation to all of you who have taken the time to attend a Program event or send us your thoughts and concerns. We are indebted to each of you and look forward to your continued involvement as we move into Phase II.

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**CALFED Agencies**

**California**

The Resources Agency  
Department of Fish and Game  
Department of Water Resources  
California Environmental Protection Agency  
State Water Resources Control Board

**Federal**

Environmental Protection Agency  
Department of the Interior  
Fish and Wildlife Service  
Bureau of Reclamation  
Department of Commerce  
National Marine Fisheries Service

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## Water Quality Questions and Comments

## Response

Each alternative should include more extensive pollutant control programs for both urban stormwater runoff and agricultural drainage.

Owing to increasingly stringent drinking water quality standards, the preferred alternative should provide the best quality source water reasonably available. Better quality source water also facilitates water recycling/reclamation.

CALFED should pursue agricultural land retirement as a water quality issue rather than a demand management component, offering incentives to retire land with drainage problems (salt, selenium, etc.). However, CALFED should not rely solely upon land retirement to improve water quality, but should also develop a more extensive drainage system to improve water quality, especially the San Luis drain.

CALFED should recognize that water quality is tied to Delta configuration. Any change in conveyance and storage facilities or operations will require new water quality standards.

While an isolated conveyance facility may provide better quality water for some users, it will degrade water quality for in-Delta water users.

Discussion of water quality seems to focus on surface water quality but should include groundwater quality as well.

CALFED should not rely upon dilution flows to improve water quality since pollutants can still bioaccumulate in the food chain; rather, CALFED should emphasize pollutant reduction.

Much of the discussion about water quality emphasizes better water quality for urban users, but agricultural users need better water quality as well. Some interests view an isolated conveyance facility as a means for supplying high quality water solely for urban interests, but such a facility should serve all water users, including agricultural water users.

How will ecosystem restoration affect water quality?

Water quality is included as a common program contained within the current 3 draft alternatives. The water quality program will focus on source control through a system of incentives to benefit all water users of the Delta: improved drinking water quality for urban users; reduced salt load for agricultural users; and reduced toxicity for environmental and recreational users. The Program will also explore Delta channel conveyance improvements to provide more effective prevention of sea water intrusion into export supplies. Phase II analysis will examine providing water to help dilute contaminants remaining after previous source control measures have been implemented.

Though the water quality common program will be implemented at one comprehensive level for all the alternatives, adjustments will be necessary depending upon the geographical or physical characteristics of a particular alternative. For instance, the use of Dual Delta Conveyance may require more focus on in-Delta water quality than an alternative with only through-Delta conveyance. For each alternative, the water quality common program will be developed to provide the highest quality water considering all beneficial uses.

Phase II will analyze the effects of ecosystem restoration upon water quality. Ecosystem restoration activities may improve water quality not only by converting land uses that typically degrade water quality to habitat which is protective of water quality, but also through implementation of natural filtration processes. However, wetlands may also increase the amount of total organic carbon (TOC) in Delta water. Phase II analysis will examine both the positive and negative impacts of ecosystem restoration upon water quality.

Watershed management is currently part of the water quality common program. The Program is also considering including watershed management in the ecosystem restoration common program.

## Ecosystem Restoration

### Questions and Comments

Ecosystem restoration actions at the modest and moderate level are inadequate. Extensive restoration should be a part of all the alternatives, and the environmental review should include one alternative that maximizes benefit to the ecosystem. In addition, restoration of the San Joaquin River system requires more attention than it has received thus far.

Ecosystem restoration has been too much a focus at the expense of other interests, especially in the core actions; the process thus far hasn't balanced all interests. Ecosystem restoration should not be an alternative in and of itself.

CALFED should develop a coherent Ecosystem Restoration Plan that clarifies definitions and objectives of ecosystem restoration. Specify the level of restoration that will serve as the standard--the species, habitats, and natural functions to be restored. This is critical since CALFED intends to use an adaptive management approach to ecosystem restoration.

There has been an overemphasis on the impacts of diversions on the ecosystem. CALFED should also consider other impacts such as toxics, exotic species, temperature, spawning substrates, commercial and sport fishing, etc.

CALFED should create a Bay-Delta management institution to oversee/coordinate habitat restoration projects, manage environmental monitoring, and/or manage flows through the Delta.

CALFED should distinguish between ecosystem restoration activities and ecosystem activities that are mitigation for the effects of other program components. For instance, any construction of new conveyance and/or storage facilities will require mitigation for environmental impacts that are separate from restoration objectives.

## Response

General support for extensive habitat restoration has prompted the Program to include ecosystem restoration as a common program to be implemented in each of the 3 alternatives. The Program is developing an Ecosystem Restoration Plan, with input from the BDAC Ecosystem Restoration Workgroup and the Agency Ecosystem Restoration Team, that will help guide the development of restoration objectives and specify restoration targets. The overall goal of the Program is to produce a significant net gain in ecosystem health that encompasses not only areal extent of habitat, but also all other known limiting factors and stressors on the ecosystem. The Plan will utilize an adaptive management technique, which emphasizes testing ecosystem actions and modifying current restoration techniques as new information becomes available. The Program anticipates that funding for ecosystem restoration will come from a combination of public funds and user fees.

Throughout Phase II, the Program will be evaluating the most appropriate agency or agencies to implement and manage ecosystem restoration activities. Since the question of appropriate implementing agency(ies) is closely linked to the recommendations of the preferred alternative, the bulk of this analysis will occur in the later stages of Phase II after the Program produces a draft of the preferred alternative. Both the Ecosystem Restoration Work Group and the newly formed Assurances Work Group will provide advice on this institutional issue.

We agree there has been a focus on the impacts of diversions on the ecosystem. The Program will consider actions to lessen the potential impacts of all contributing factors in water quality.

## Ecosystem Restoration

### Questions and Comments (cont'd.)

CALFED should recognize that current in-stream flow requirements may not be sufficient for fisheries and may need to increase, especially concerning the Trinity River. None of the alternatives clearly guarantee water for environmental uses.

CALFED should not recommend higher instream flows for fisheries since it would only worsen the region's flood problems.

CALFED is placing too much faith in fish screens. They're effectiveness is questionable, especially for an isolated facility. Fish get caught in the screens, and the screens impede water flow. The fish screen at the CVP and SWP intakes are inadequate to prevent entrainment.

CALFED should require fish screens on high-priority diversions throughout the Delta.

CALFED should provide incentives to encourage agricultural practices that provide supplemental habitat and protect landowners who already provide habitat voluntarily from future environmental regulations.

CALFED should also examine the impacts of agricultural land upon nearby habitat, and how newly restored habitat will affect nearby agricultural operations.

CALFED should specify how ecosystem restoration will be funded and ensure that environmental plans will work so that money won't be wasted.

CALFED has lost focus of the San Francisco Bay. Include the Bay more in the ecosystem restoration program.

### Response (cont'd.)

We will continue to monitor any changes in instream flow requirements as they relate to the Bay-Delta Program. The Program is exploring means to augment instream flow through water purchases and additional storage. Part of the Phase II analysis will examine the relationship between instream flow requirements and flood risk.

The Program considers placing fish screens on all diversions to be a high priority. We are concerned about the effectiveness of fish screens for large diversion structures. Consequently, we will be working on this issue in Phase II and will coordinate this work with existing Work Groups already considering this issue.

The Ecosystem Restoration Program includes incentives to encourage "wildlife friendly" agricultural practices, including a safe harbor program for existing cases. The Program will continue to analyze the interaction between nearby habitat and agriculture.

## System Integrity Questions and Comments

CALFED should extend the Delta levee subvention program to include areas and non-Project levees beyond the jurisdictional Sacramento-San Joaquin Delta that nevertheless affect the configuration of the Delta.

All Delta levees should be improved to conform to the PL-99 standard.

Many Delta levees are made of liquefiable soils and therefore vulnerable to failure in a seismic event. Those Delta islands protected by these vulnerable levees should be retired and willfully converted to habitat to prevent them from becoming valueless pits following a catastrophe.

Regardless of the method of conveyance chosen, extensive levee improvement is necessary to protect existing infrastructure and habitat and should be part of every alternative.

The preferred alternative should ensure outages of Delta water supplies of only 3 months following a seismic event.

CALFED should pursue subsidence reversal to improve levee stability, as well as providing additional habitat.

Each alternative should include an emergency management/response plan for addressing levee failures.

## Response

The current 3 draft alternatives include levee system integrity as a common program. A long-term Delta Levee Protection Plan will address levee stabilization and maintenance, including subsidence reduction. The plan will also explore the beneficial reuse of dredged material, the creation of habitat corridors as mitigation for impacts from levee stabilization and maintenance operations, and the development of an emergency levee response plan.

The degree of seismic vulnerability of Delta levees is a subject on which some experts disagree. Phase II analysis will examine the full range of potential levee seismic vulnerability in considerable detail.

The Delta Long-Term Levee Protection Plan will provide a uniform approach for improving system reliability. Uniform funding and guidance for levee maintenance and/or improvements to a set standard would be provided on a cost-shared basis for Delta islands. Funding for flood control and habitat improvements would be on a prioritization system to ensure long-term protection of Delta system functions providing the highest public benefit.

While the system integrity program will be implemented at one comprehensive level with a high target achievement level, some minor adjustments may be needed depending on geographic or physical characteristics of a given alternative, such as new conveyance or storage facilities.

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## Water Conveyance Questions and Comments

The short list of alternatives must include an isolated conveyance facility in order to provide a reasonable range of alternatives. An isolated facility offers several benefits: improved water quality since there is less opportunity for the introduction of pollutants; less vulnerability to catastrophe than levees since the facility can be sited above sea level and engineered to withstand earthquakes; more efficient transport of water to south Delta pumps; and reduced reverse flows in south Delta. The isolated facility should deliver water to the east, central, and south Delta.

An isolated conveyance facility would reduce the amount of water available to in-Delta water users, degrade in-Delta water quality, devalue Delta lands by undermining riparian and contractual water rights, confuse migrating fish, and undermine the Delta as a common pool. Californians already rejected an isolated conveyance facility by voting down the Peripheral Canal in 1982.

Would an isolated conveyance facility be built so that it could be expanded in later years? Would water conveyed through the isolated facility be earmarked for urban water agencies only? Who would own and control the isolated facility?

CALFED should examine a dual conveyance alternative that includes channel improvements to the existing Delta system and a small/moderate isolated conveyance facility. This alternative maintains in-Delta water quality while improving water quality for south Delta water users. It also maintains the Delta as a common pool, compelling all Delta water users to guard in-Delta water quality.

## Response

Alternative 3, Dual Delta Conveyance, will examine the use of modified Delta channels in conjunction with an isolated conveyance facility of varying capacity--from 5,000 cfs to 15,000 cfs--to deliver water to the export facilities. The smaller capacity canals would likely provide primarily urban water, so the operation of the isolated conveyance facility under such a scenario would be designed to improve drinking water quality. Phase II analysis of Alternative 3 will also include an analysis of a fully isolated facility capable of meeting the capacity of the SWP and CVP aqueducts (15,000 cfs).

Some comments have expressed concern that even a small isolated facility could be expanded in the future and thereby undermine any Bay-Delta solution originally agreed upon. Though conveyance canals can be expanded, such expansion is no trivial task; it would require major reconstruction. The Phase II analysis will also include assurances and institutional guarantees to address the future modification of any aspect of the final preferred alternative, including facilities and possible limits as well as questions of ownership and operational responsibility for such facilities.

Phase II analysis of Alternative 3 will examine using both the existing south Delta pumping facilities and the proposed isolated facility (with a screened diversion on the Sacramento River) to divert water during times less critical to ecosystem health and curtail diversions during periods of high priority for ecosystem health. During some periods of diversion, it is likely that both diversion facilities will be operating simultaneously, while at other times only one facility would operate depending upon the presence



## Water Conveyance

### Questions and Comments (cont'd.)

The operation of a dual conveyance system should be dictated by the need to meet drinking water quality standards.

Would the two diversions of a dual conveyance system ever operate simultaneously, and if so, how much water would be diverted from the Delta during such simultaneous operation?

CALFED should emphasize non-structural alternatives that emphasize reoperation of the existing conveyance system, since there's a lot of waste in the current system, and since the construction and operation of additional facilities will only produce additional environmental damage.

CALFED should pursue extensive channel modifications to improve channel capacities and thereby provide better flood protection, in addition to ensuring in-Delta water quality by maintaining conveyance through the Delta. Channel improvements could also be engineered to provide better habitat through reduced channel velocities for fisheries and additional shallow tidal wetlands.

Channel improvements are necessary on the North and South Forks of the Mokolumne River to improve flood protection through increased conveyance capacity.

Through-Delta conveyance alternatives require more extensive pollutant reduction efforts to maintain water quality.

### Response (cont'd)

of fish species of concern near one or another of the diversion facilities. Phase II analysis will examine the impacts of both these scenarios.

The Phase II analysis will examine a wide range of Delta channel modifications for both Alternatives 2 and 3: less extensive changes that include small improvements to existing channels; moderate efforts that include dredging and setback levees; extensive alterations that include converting some Delta islands into a network of habitat corridors and conveyance channels. Underlying the channel modifications proposed in Alternatives 2 and 3 are the key goals of improved conveyance and restoration of habitat corridors. Channel widening would increase channel capacity and thereby provide increased flood protection, wider channel cross sections would reduce channel velocities to enhance the fishery, and restoration of shallow tidal habitat along channel edges would improve ecosystem health. Channel improvements would also be designed to maximize water quality under these scenarios.

## Scope of Water Supply and Demand

### Questions and Comments

CALFED must clarify whether the frame of reference for supply conditions is current or projected future conditions. The state's population will only increase, producing increased demand in the future; indeed, the Department of Water Resources identifies future water shortages of millions of acre feet per year. Any water savings produced by demand management measures will likely be negated as demand from population growth increases, so CALFED's reliance upon demand management to craft a long-term solution is flawed.

CALFED should provide explicit supply and demand forecasts and invite public comment on the forecast numbers. Such forecasts are necessary to evaluate the durability and desirability of the alternatives.

Water supply has traditionally been viewed as a technical problem; that is, efforts have focused on how to provide water to supply the demand of some projected population. Rather than developing supply to meet projected demand, CALFED should acknowledge supply limits and propose growth limits.

CALFED should delineate three areas of demand management: actions to respond to critical conditions during dry years; actions to replace current supply reductions due to regulatory reallocations; and actions to soften future water demand owing to population growth.

CALFED planning should include long-term (100 year) water management.

CALFED should provide incentives to ensure that crops requiring relatively large amounts of water (avocados, cotton, etc.) are not grown in the semi-arid climate of the Central Valley. Rather, crop production should emphasize those crops that grow best in this climate, rather than trying to simulate some exotic climate.

## Response

The charge of the Bay-Delta Program is to restore the Bay-Delta ecosystem while improving water supply reliability, as well as to improve water quality and the stability of the physical Delta system. The CALFED Bay-Delta Program is not charged with solving all of California's future water supply needs--an issue that must be pursued in other forums. Nor does CALFED have the mandate to propose population control or growth management measures.

The emphasis of our Program is to create physical and institutional flexibility in the Bay-Delta System, so as to simultaneously protect ecosystem health and maximize opportunities to convey developed water supplies and water made available in the open market for water transfers. This flexibility will create opportunities for increasing flows for the fishery during high priority times and transferring water for beneficial use during periods of low priority for fishery. Thus, the Bay-Delta Program is focused upon water from the Bay-Delta estuary related to environmental factors and is only indirectly related to state-wide demand.

Water use efficiency is an important tenet for the Bay-Delta Program; the Program must ensure that water is being used efficiently in every sector as actions are implemented to restore Bay-Delta System conveyance flexibility and efficiency. While the Program may recommend market mechanisms to manage water consumption--a topic of ongoing consideration for the BDAC Workgroup on Water Use Efficiency--the Program does not intend to coopt decisions best made at the county, irrigation district, and farm level by micro-managing the implementation of urban BMPs or agricultural EWMPs.

## Water Supply Questions and Comments

The alternatives don't seem to provide additional supply. CALFED is over-relying upon conservation and reclamation, but demand for water will only increase as population grows, which will negate any water savings produced by conservation. Demand management measures won't be enough; CALFED must provide additional water supply. Water users are also concerned about receiving their entitlements during dry years. Several billion dollars worth of infrastructure has already been built to convey and store water, but this investment is wasted if there is not sufficient water to deliver. CALFED must authorize new facilities to transport and store water.

Water supply needs don't appear to be addressed until later implementation stages, but this is very problematic. Funding for large-scale projects usually dissipates before all features are implemented, so delaying water supply actions for later implementation puts them at risk of never being implemented.

Agricultural users want to regain the water supply lost in recent years, but each alternative only seems to take more water away from the farmer. CALFED needs to evaluate alternatives that increase water supply for agricultural users.

None of the alternatives clearly show how water supply for the environment will be guaranteed.

Each alternative should explicitly show how it increases or decreases water supply for particular regions.

## Response

Total water resources is integrally linked with water use in service areas which discharge to the ocean or to a saline sink. Reductions in the use of water can help narrow the gap between water supply and demand and can improve water supply reliability during drought periods in these areas. Water use efficiency for these areas should be one of the many tools used by water managers and, consequently, is included as a common program.

Two other components of water supply--conveyance and storage--are the variable programs that most differentiate the 3 current draft alternatives. Each alternative provides water supply conveyance and water transfer opportunities, although at different levels.

Reoperation of the existing system (including the timing of diversions) can create water supply opportunities for all beneficial uses, including ecosystem needs and consumptive uses. Environmental flows can be increased during times critical to fisheries, while conveyance and water transfer opportunities can be increased during times less critical to fisheries. Over time, habitat restoration can produce water supply opportunities by helping endangered and threatened species to rebound, thus reducing the conveyance constraints.

Alternatives 2 and 3 include channel modifications that can improve water conveyance, while Alternative 3 will also examine an isolated conveyance facility. The Phase II environmental review will also examine a wide range of storage options, including upstream, in-Delta, and south of Delta locations. Each of these conveyance and storage options should provide water supply opportunities.

Example phasing (or "sequencing") plans--which have been prepared for each of the 3 current draft alternatives--will be further developed in Phase II. Because of the longer planning, permitting and construction times associated with water supply facilities, phasing plans will clarify that planning for water supply facilities (such as reservoirs) will start in the first phase of implementation while permitting and construction may not be possible until later stages.

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## Storage

### Questions and Comments

CALFED should establish a hierarchy for analyzing storage options. Conjunctive use and groundwater banking should be examined first, followed by augmentation of existing storage, then new surface storage. New surface storage should be the last option since it has higher environmental costs, and off-stream storage should be less damaging to the environment than on-stream storage. New storage facilities will require major mitigation to offset the environmental impacts of reservoirs or off-stream storage sites.

CALFED should not consider additional surface storage owing to the environmental damage it causes. Reoperation of the existing system is sufficient to meet water needs. There is currently too much waste.

Before building new storage, CALFED should first lift restrictions on taking water when there is extra during wet years. Too much red tape prevents diversion of surplus water when it would cause little harm.

Increased storage is necessary to achieve water reliability and should be added to all the alternatives. Too much water is wasted because of insufficient storage. Increased storage will also be necessary for reoperation of the system. For instance, water savings produced by urban or agricultural conservation measures will provide little benefit during dry years unless the water savings can be stored. Similarly, reoperation of the existing system to increase diversions during times less critical to fisheries will improve water supply only if there is opportunity to store the water diverted during high pumping times.

CALFED needs to distinguish more clearly between conjunctive use and groundwater banking. Both conjunctive use and groundwater banking should be common to all the alternatives and implemented early in the program. All areas of the state should be analyzed for conjunctive use/groundwater banking potential, and all conjunctive use/groundwater banking options should be exhausted before CALFED considers surface storage.

## Response

Adding more storage is a possible action in each alternative. Unlike the common programs, storage will be variable component that could differ with each alternative since storage and conveyance are intimately linked. Due to the importance and complexity of these issues, we have created a separate component for storage that requires additional analyses to refine sizes and operations. The Phase II analysis will consider storage options upstream, in-Delta, and south of the Delta.

The Program staff has assumed a general priority for implementation of storage beginning with conjunctive use and continuing with groundwater banking, followed by offstream surface storage, and finally on-stream storage as needed to meet storage requirements of a given alternative. The higher priority given to conjunctive use and ground water banking is based on the ease of permitting for these facilities, the lower investment requirement and the shorter time required to bring a facility on line. Offstream surface storage emerges as a higher priority over onstream surface storage owing to the Program's commitment to multiple objectives, including ecosystem health; offstream facilities generally produce fewer and reduced impacts to ecosystem health, especially to the fishery. As Phase II progresses, refinements in this assumed order of implementation will be made as indicated by the more detailed analysis.

Conjunctive use is the operation of a groundwater aquifer much like a surface water reservoir; water is stored in the aquifer during wet periods--through natural groundwater seepage or recharge basins--and extracted during dry periods. While conjunctive use assumes yearly use of an aquifer, groundwater banking is the more long-term use of an aquifer to store water during wet years, especially water saved through conservation measures, for use during dry years. Phase II analysis will explore the technical and financial feasibility of conjunctive use and groundwater banking, as well as any associated impacts. The Phase II analysis will examine sites both upstream and south of Delta.

**Storage**  
**Questions and Comments (cont'd.)**

**Response**  
**(cont'd)**

CALFED should establish the groundwater levels above which conjunctive use will be acceptable so as not to contribute to groundwater depletion. What will be the benchmark? CALFED alternatives should also be sensitive to salinity control for groundwater.

Conjunctive use is acceptable only when practiced for local benefit within a basin or county, not for export.

CALFED is approaching conjunctive use as a foregone conclusion, but many questions remain about conjunctive use. Is conjunctive use on such a large scale technically feasible? As a supplement to surface water supplies, won't conjunctive use be costly since it will require additional infrastructure?

Upstream storage provides the greatest operational flexibility. It could satisfy environmental needs such as pulse flows for fish transport and minimum instream flow requirements. Upstream storage could also be used to improve water quality and supply. There is sufficient water in the north, but it's not totally developed.

Upstream storage could lead to another round of Auburn Dam with its extensive damage to the environment. Upstream storage must be offstream and sensitive to the environment.

South of Delta storage is necessary to complement pumping operations. Pumps may be idle if there is insufficient storage for the diverted water. South of Delta storage is more cost effective and would be used more than upstream storage.

Is island storage feasible? In-Delta storage would be a disaster if levees fail. In-Delta storage also raises water quality problems and diversion risks to the fisheries. CALFED must ensure that diversion management would be developed to limit fishery impacts. If Delta islands are converted to storage, other habitat has to be provided in mitigation.

Phase II will examine the technical feasibility of conjunctive use. We recognize there are specific issues such as safe yield and third party impacts which will need more specific analysis during refinement of this component and during evaluation of impacts. In performing this refinement we will follow the solution principle of "no significant redirected impacts"

Similarly, the technical feasibility of in-Delta storage will need to be explored in Phase II. There are specific structural and operational issues which will need to be evaluated during the detailed analysis.

## Urban Conservation Questions and Comments

Water conservation and reclamation measures need to be more widespread in the alternatives. They should be implemented at higher levels as core actions.

Rather than prescribing targets for water reclamation and creating a separate water reclamation/conservation bureaucracy, CALFED should work with water agencies to: identify reclamation opportunities and their associated costs; calculate potential water savings, evaluate performance of various conservation/reclamation techniques, and provide financial and technical support. CALFED should clearly articulate the future obligations of water agencies to conserve water. CALFED should also be sensitive to water agencies Integrated Resource Plans.

Water savings produced by conservation measures will be of little use during dry years unless there is opportunity to store the saved water.

Current water conservation efforts have already begun to harden demand, making it difficult to achieve further reductions and providing less flexibility to implement shortage measures during dry years. CALFED needs to distinguish between long-term conservation and shortage measures. What benchmark will CALFED use for determining water conservation objectives?

CALFED should examine the use of gray water and begin incorporating principles into building codes. Watering lawns and flushing toilets does not require drinking quality water.

CALFED should examine tiered rates and other user-fee incentives as demand management tools, but implementation should be a matter for local control.

## Response

Many comments suggested that extensive demand management should not be an isolated alternative, but rather a component of all the alternatives. Consequently, water use efficiency is now included as a common program contained in each of the current 3 draft alternatives. While water use efficiency measures alone will not solve Bay-Delta problems, they will help to diminish the gap between water supply and demand.

The Program intends to encourage and facilitate the efficient use of water. Phase II analysis will examine market-based incentives, efforts to remove institutional impediments, and regulatory measures to promote water use efficiency. The BDAC Water Use Efficiency Work Group will provide policy recommendations in this area. In the urban sector, water use efficiency approaches will relate to urban water conservation and water recycling. Approaches will give careful consideration to successful efforts such as the California Urban Water Conservation Council, and will incorporate the strengths of such efforts whenever possible. Approaches will also be designed to accommodate and encourage local integrated resources planning, because decisions about specific efficiency measures are usually best made at the local or regional level.

Water use efficiency is just one aspect of overall water management planning. From the statewide planning perspective, water use efficiency must complement other components of CALFED alternatives, particularly conveyance and storage. From the local or regional perspective, agencies will need to consider the opportunities provided by any new conveyance or storage projects and design water use efficiency programs accordingly. This planning should be done within the context of integrated resource planning so as to provide an acceptable level of local water supply reliability during dry years as well as wet ones.

**Water Use Efficiency and Hardened Agricultural Demand**  
**Comments and Questions**

Because of water cost increases, agricultural community has already developed its own demand management measures--employing conjunctive use programs, retiring marginal lands, using reclaimed water; consequently, California farmers are already the most efficient water users in the world. Irrigating in hot weather wastes no more water than evapotranspiration. Agricultural demand has hardened; there is no room for more agricultural water conservation.

Agricultural demand management will not produce any water savings or reduce demands on the Delta--it will simply overcome existing shortages and ease reliance upon groundwater pumping.

Farmers have not been receiving their full entitlements--conservation savings should be used to help replace recent curtailments to agricultural water users. Agriculture is not seeking an increase in overall water supply. Agriculture simply needs and insists on a CALFED result that restores to agriculture that was diverted for environmental purposes.

There is opportunity to increase agricultural water conservations. There are puddles of water on farm roads from irrigation during high temperatures. Irrigation techniques need to be improved to be more efficient. CALFED should encourage research on subsurface drip and other irrigation technologies to improve agricultural efficiency in water use. Public financing of such infrastructure should also be explored.

**Response**

The Program recognizes that water use for agriculture can differ significantly from urban water use, such as the amount of reuse that occurs, the ability to finance efficiency measures, and the variability of water uses. With advice from the BDAC Water Use Efficiency Work Group, the Program intends to develop an approach to agricultural water use efficiency that:

- provides market incentives for efficient use where such incentives do not currently exist,
- removes impediments to efficient use where these occur,
- provides ample technical support so that agricultural water users can take advantage of all opportunities to improve efficiency.

## Land Retirement Questions and Comments

CALFED is over-emphasizing retirement of agricultural land by including it in every alternative. The large amount of land identified for retirement is also troublesome. CALFED should analyze land retirement options using upper and lower limits, including 0 acres of land retirement.

Retiring agricultural lands will produce significant secondary and third-party impacts, especially upon rural communities. Therefore, land retirement is contrary to solution principles since it redirects impacts to third parties and since it creates, rather than reduces, conflict. CALFED should carefully analyze any social and economic impacts of land retirement.

CALFED should continue to explore agricultural land retirement since this land will go out of production in 10-20 years anyway. Water for marginal agriculture is already heavily subsidized. CALFED should not back away from the land retirement option owing to the public response of vested interests.

The EIR/EIS should thoroughly examine the economic impacts of agricultural land retirement. Previous models suggest that land retirement can produce severe economic impacts to agriculture and local economies. The EIR/EIS should analyze the cost of land retirement to the full economy, not just the single farmer whose land is retired, including those industries related to agricultural production.

The world's population only continues to grow, increasing the need for agricultural production. Retiring agricultural lands will hasten food shortages. Also, the U.S. relies upon agricultural exports. Retiring lands could force the U.S. to rely upon importing food, which diminishes the nation's power and makes it more vulnerable.

## Response

The ten draft alternatives developed in the Program's conceptual planning phase included both temporary fallowing during periods of shortage and permanent land retirement. Permanent retirement was included in the alternatives both as water quality measure--to reduce discharges from drainage problem lands--and as a demand management/water use efficiency measure. The amount of permanent land retirement varied among these early alternatives from a low range of 70,000 to 100,000 acres of permanent land retirement to an upper end of 750,000 to 850,000 acres.

In response to the many scoping comments received on this issue, the Program has substantially revised our approach to the land retirement issue. The Program will continue to consider permanent land retirement as a potential measure to improve water quality, but not as a direct tool in the Water Use Efficiency Program. In this context, the Program will consider land retirement in areas with drainage management problems on the west side of the San Joaquin Valley which are tributary to the Delta. The Program recognizes several strategies are available to manage agricultural drainage from these lands, so there may be alternatives to land retirement. Further refinement will be necessary to decide the range of acreage considered for retirement to improve water quality. This approach must also complement other components of the CALFED alternatives that address water supply, including conveyance and storage.

We recognize that water use for agriculture can differ significantly from urban water use, including: how much water reuse occurs; the ability to finance efficiency measures; the variability of water uses; and the ability to deal with shortages due to drought conditions. Agricultural response to reduced water supply during drought periods also differs from the urban sector. Irrigation districts and growers have many options to cope with drought water shortages, including implementation of additional water use efficiency measures and voluntary changes in cropping patterns. Districts and growers may also elect to fallow land



## Response (Cont.)

### Land Retirement

#### Questions and Comments (cont'd.)

Marginal land has already been retired owing to economic necessity. Additional marginal land will naturally go out of production just to

meet the current water supply or as a result of urbanization. There are also several other programs that will result in agricultural land retirement. There's no need to deliberately retire agricultural land on top of these natural losses.

Land retirement does not clearly produce fish and wildlife benefits. In fact, land retirement may have unintended impacts upon habitat, especially since some farmers voluntarily provide habitat. Rather than emphasizing agricultural land retirement, CALFED should encourage farmers and landowners to provide habitat, and CALFED should protect those landowners who already do provide habitat from future environmental regulations.

Why have **agricultural** lands been targeted for retirement rather than relatively non-productive urban land, such as golf courses and gardens? Why isn't CALFED considering retiring marginally productive businesses that consume water? Agricultural water users have already done their share by reducing their water diversions to meet recent environmental regulation. In order to be fair, CALFED should emphasize reducing urban, individual, and environmental uses of water.

The Federal government has failed to fulfill its obligation of completing the San Joaquin Valley drain, which has ruined agricultural land. Now that same government wants to pay a "fair market price" for land that it helped to devalue. What price is the government willing to pay for retiring land? Will there be a ceiling on the price of lands to purchase? It is unlikely that CALFED will find willing sellers.

Any water savings produced by land retirement should stay within the same irrigation district to help meet unfulfilled contract entitlements.

to make adequate water supplies available to other lands for crop production.

The result of CALFED Program reducing physical conveyance constraints across the Delta and reducing institutional constraints to water transfers may be a more active water market. Water marketing can help districts and growers cope with shortages if they can purchase additional supplies to finish an irrigation season, or if they take advantage of markets by temporarily fallowing or permanently retiring land to make water available for other uses. To guard against social or environmental impacts that could result from an unrestricted water market, the Program will explore the need for mechanisms to prevent re-directed impacts.

The combinations of responses to drought should be the result of integrated resources planning carried out at the local level.

## Water Markets and Transfers

### Questions and Comments

CALFED should improve the current legal and regulatory framework that complicates water transfers, developing water marketing opportunities to facilitate voluntary reallocation of water.

Water transfers are more important than increased water storage for improving water supply.

Water transfers should not supplant the development of additional storage.

Water transfers only move water shortage from one place to another.

Water transfers don't solve water problems in source counties; they only add to water problems.

Water marketing provides sufficient benefits to pay for direct and indirect impacts to area of origin.

CALFED needs to clarify which alternatives include water transfers. Water transfers should be in all of the alternatives.

Water transfers should occur only within a basin.

### Response

The Program recognizes the potential value of water markets and resultant water transfers to reduce the mismatch between supply and demand, and also recognizes the problems that could occur with unrestricted water markets. Water marketing could increase the incentives for efficient use in the urban and agricultural sectors, particularly during dry years. At the same time, safeguards in the form of assurances will need to be in place to help prevent additional groundwater overdraft, to minimize third party impacts, and to prevent environmental impacts that might be associated with water marketing and transfers. Phase II will include an analysis of each alternative's ability to increase transfer opportunities and facilitate water marketing.

**Water Pricing**  
**Questions and Comments**

CALFED should examine a per acre foot user fee and tiered (or blocked) water rates to encourage water use efficiency. CALFED should also recognize that the quantity, quality, location, and time of water deliveries determine the variable value of water.

Who would manage block water rates? Water pricing should be under local control rather than being dictated by CALFED.

Block pricing may undermine the agricultural economy, which has already experienced significant increases in water costs recently. Increases in water prices only compel irrigators to pump groundwater, which only worsens the groundwater overdraft.

**Response**

The *price* of water and the *rate structure* charged are separate but related issues. With respect to the price of water, any new conveyance, storage, or efficiency measures implemented by this program are likely to be more expensive than conveyance, storage, or efficiency measures implemented in the past. In addition, the cost of water in the past in some cases has not adequately reflected the impacts of water development on the environment. However, the conveyance flexibility and access to water markets will introduce water market forces into the cost picture. All of these factors will have an effect on the cost of opportunities to use water which are created by the Program.

As part of their water use efficiency programs, some water agencies have implemented conservation-oriented rate structures which maintain the same total income for the agency imposing the rate structure while the average cost of water does not increase. Efficient users take advantage of lower rates, while less efficient users pay a higher rate for their additional increment of use. As part of our water use efficiency element, the Program will consider whether conservation-oriented rate structures, coupled with market based incentives to implement such structures, can produce a significant benefit to the Bay-Delta system.

**Project Costs**  
**Questions and Comments**

Costs of the preferred alternative should be distributed equitably among the beneficiaries in proportion to the benefits received.

CVP and SWP water recipients, as the cause of most of the environmental damage in the Bay-Delta, should shoulder the cost of habitat restoration.

Environmental benefits benefit the general public and, therefore, should be funded by the general public.

Agricultural interests should help pay the costs associated with improving water quality since agricultural drainage is the principal cause of water quality degradation.

Area-of-origin counties should not be held accountable for environmental damage wrought by downstream users/interests.

Financing the preferred alternative should include a mix of federal funding, state general obligation bonds, and user fees.

CALFED should eliminate all alternatives costing more than \$10 billion as infeasible. CALFED should also provide an alternative that costs less than \$1 billion.

**Response**

Preliminary order-of-magnitude cost estimates were prepared for the alternatives during Phase I to display the range of costs associated with meeting the Program objectives. Phase II will include a more detailed cost estimate and a cost-benefit analysis of each alternative. While the cost of each alternative will be a factor in determining the Program's preferred alternative, an equally important (or perhaps more important) factor is the capacity of each alternative to meet the program objectives

CALFED anticipates that funding for the preferred alternative will come from a mix of general funds and user fees, and the Phase II analysis will examine equitable means for distributing costs among beneficiaries.

**Core Actions/Essential Elements/Common Programs--  
Requests for Clarification:**

**Response**

What is the difference between core and essential elements?

Will core actions be implemented first, then essential elements?

Alternatives that include core or essential elements at a higher implementation level; is that additive or do these actions include the core and essential elements?

Has it been determined that the core elements satisfy the solution principles?

Are Core actions adequate in scope to make a difference?

Core actions were defined in early parts of the Program as actions that enjoyed general support and offered the potential for early progress toward a Bay-Delta solution; therefore, core actions have been moved into the first stage of implementation of many of the common programs. Some of CALFED's core actions are already in progress through other programs, such as current CVPIA actions like the Shasta Temperature Control Device. In some cases, the Bay-Delta solution will provide funding for projects already in progress.

It was originally intended that essential elements would be additive to the core actions, that they would expand efforts begun during the early implementation of the core actions. However, both core actions and essential elements are now bundled together into the Common Programs that form the foundation of the 3 draft alternatives, with core actions now the early implementation parts of the Common program.

While the common programs alone will not satisfy Solution Principles, they meet criteria that mirror solution principles. Please see Appendix A of the April Workshop 6 Information Packet for additional description of these criteria.

**Level of Detail for Core Actions/Common Programs**  
**Questions and Comments**

**Response**

Implementation of Core Actions may differ for each alternative. Those differences are being lost in the discussions. They should be dealt with as part of the alternatives discussions as well as individually. Core actions may not be affordable as presented.

Core actions have not been discussed at length. They need to be discussed at a workshop that is separate from those on the individual alternatives.

Core actions have changed substantially. They are not simply core any more. They are too specific. They can't be supported by the information that has been made available.

Some core actions are specific, others general. Habitat is very specific, water quality is more general. Why?

We should assume that the core actions are common and that they stay constant. The primary issues are far different and more complex than those stemming from core actions. Core actions provide a "false sense" to the alternatives; too soon to cast them in concrete.

It is too soon to get so specific. There is not enough science to back core actions up. We should see what the responses to them are.

A more detailed description of each alternative is required to effectively evaluate them.

If core actions and action elements go across the alternatives, then that is good information and it should influence the way we look at alternatives. We can go back and see how, why, where, and when the alternatives are influenced. The Core Actions are good as they stand.

Implementation of common Programs will differ appreciably according to storage and conveyance options--affecting comparative evaluation of the options. CALFED must remain open to economically and socially optimal levels of implementation of the Common Programs, as dictated by costs, especially the levee stabilization program.

As part of the Workshop #6 packet, a greater level of detail was provided in response to comments made at Workshop #5. The additional detail provided demonstrate approximate sizes for many features of each alternative. The sizes are used only to illustrate the general concept for the draft alternative and should not be considered absolute. For instance, showing protection and enhancement of 4,000 to 6,000 acres of shallow water habitat at the most feasible sites with the highest value for aquatic habitat does not limit the final area to that range. After analysis in Phase II of the Program, this area could just as easily be 2,000 acres or 8,000 acres. The use of adaptive management monitoring will ensure that the correct amount of habitat is constructed.

## **Implementation and Sequencing of Core Actions/Common Programs**

### **Questions and Comments**

It's appropriate to have core actions but we shouldn't waste so much time and money. We should try Core Actions and Essential Elements in sequence so we can see if they work.

Common Programs/core actions cannot be implemented prior to the NEPA Record of Decision if they would produce adverse environmental impacts or if such actions would limit the choice of reasonable alternatives.

We support balanced implementation with all interests moving along together.

Specific time frames for program implementation should be included.

### **Suggested Additions to Core Actions/Common Programs**

The concept of groundwater banking and conjunctive use need to be expanded in core action.

Habitat restoration along the order of Alternative F should be a core action.

Demand management should be a component common to all the alternatives.

A higher level of urban and agricultural water conservation should be incorporated into the essential elements.

The core actions should be expanded to guarantee extensive habitat restoration, levee stabilization and demand reduction.

The creation and implementation of a drought water management program should be added as a core action.

An additional core action should include small-scale drainage improvements in floodways along the Sacramento River to prevent stranding of salmon smolts.

### **Response**

Sequencing of actions will be a key part of implementation of the final alternative, allowing for adaptive response.

Since the common programs offer potential for early progress toward a Bay-Delta solution, they will comprise the first stage of implementation. Some of CALFED's core actions are currently in progress through other programs, so expansion of these efforts should not contradict NEPA requirements. Other elements of the common programs will be implemented once the Record of Decision is delivered.

### **Response**

Widespread support for water use efficiency, habitat restoration, levee stabilization, and water quality measures have prompted the Bay-Delta Program to include these components as Common Programs shared by the new 3 alternatives.

**Core Actions/Common Programs--Concerns**

The core actions do not in any significant way benefit the agricultural industry.

There is nothing in the core actions to increase water supply or improve its reliability.

We are concerned about the high cost (\$1 1/2 billion) of core actions and essential elements.

Conjunctive use, since it is listed as a core action, will not meet the same scrutiny as if it were a component of an alternative, but there are significant questions about conjunctive use.

**Response**

The common programs are designed to benefit all water users. In addition to ecosystem restoration, the common programs will reduce salt loads in the San Joaquin River, reduce salt recirculation, facilitate water transfers, and create water supply opportunities. If voters approve SB 900 and the federal government matches the Program's funds for the habitat restoration and water quality portions of the common programs, then funding will come from the state's general fund and reduce cost to the water users.

Conjunctive use, as part of the Phase II alternatives, will be fully analyzed. It is included as a core action to facilitate conjunctive use by others.



**Area of Origin and Source Counties**  
**Questions and Comments**

Area of Origin statutes stipulate that the priority use of water is within a basin. CALFED must ensure that any proposed facilities will be operated in a fashion that respects Area of Origin protections and guarantees that present and future water needs of source counties are satisfied.

Area of Origin statutes should be expanded to protect watersheds, groundwater, and fish and wildlife in source counties. Such protections are especially important to source counties since they will be dependent upon groundwater for future growth.

CALFED must include watershed management, conservation, and restoration measures in source counties to improve water quality and supply. CALFED should analyze the impact of landscape scale vegetation management in the Sierra, including large-scale logging in National Forests, upon the timing and volume of water yielded from headwaters to the Delta. The Sierra Nevada Ecosystem Project (SNEP) report should be incorporated into the CALFED EIR/EIS.

Source counties are wary of relying upon groundwater to replace any transferred surface water rights proposed by CALFED. Such a practice would not only deprive source counties of imported surface water that recharges groundwater aquifers, but would also result in greater extraction of groundwater, hastening the pace of groundwater depletion. Groundwater quality in source counties would also suffer as a result of reduced import of surface water.

**Response**

While Phase II analysis will examine any impacts of the proposed alternatives upon area of origin water rights, modifying California water law in order to strengthen or expand area of origin protections is beyond the scope of the CALFED program.

CALFED recognizes the importance of watershed management, which can be practiced for water quality, ecosystem restoration, and water supply purposes. Watershed management is currently part of the water quality common program. During Phase II, the Program will consider whether to expand watershed management for use as an ecosystem restoration and a water supply measure.

## NEPA/CEQA

### Questions and Comments

The CALFED Bay-Delta Program's short list of alternatives should include a completely isolated conveyance facility option to provide a reasonable range of alternatives.

CALFED's short list of alternatives should include an option that maximizes benefit to the ecosystem.

The solution principles cannot supplant the NEPA/CEQA screening process for evaluating the reasonableness of the alternatives.

The Tier 1 EIR/EIS should include site-specific review of high-priority targets to allow early implementation.

CALFED should not use the State Water Resources Control Board's 1995 Bay/Delta Water Quality Control Plan as the base case for evaluating water supply impacts in the Existing Conditions and No-Action alternatives; rather, they should use pre-1992 conditions.

CALFED should use pre-1992 water supply conditions for the No-Action alternative rather than the current water supply conditions since agricultural interests have lost much of their water supply to satisfy recent environmental regulations.

CALFED should use State Water Resources Control Board's 1995 Bay/Delta Water Quality Control Plan to model the Existing Conditions and No-Action alternatives.

CALFED should exclude actions from the No-Action alternative for which final environmental documentation and implementation mechanisms have not been concluded

CALFED needs to clarify how the results of a sensitivity analysis will be used if there is controversy about including or excluding an action from the No-Action alternative.

### Response

CALFED will conform to the NEPA/CEQA requirements for screening alternatives, in order to ensure a reasonable range of alternatives will undergo environmental review. Alternative 3, Dual Delta Conveyance, includes an isolated conveyance facility in conjunction with improved through-Delta conveyance. Phase II will consider a wide range of sizes for the isolated facility, including a fully isolated conveyance option with sufficient capacity to meet the full physical capacity of the CVP and SWP facilities. Extensive habitat restoration is now included as a common program contained in each of the 3 current alternatives.

The Phase II environmental review will use the SWRCB's interim water quality control plan (95-1 WR) for the existing conditions water quality baseline. This interim plan is currently in place and is supported by EPA's federal standards pursuant to the Clean Water Act. Phase II analysis will examine water supply and water delivery conditions from a representative range of years to develop appropriate assumptions.

CALFED established 6 criteria for screening potential actions to be included in the No-Action alternative. Criterion 3 stipulates that an action have final environmental documentation, and criterion 4 requires that an action have final environmental permits and approvals. However, CALFED may undertake additional analyses to determine if an action that does not meet all of the screening criteria has important implications for the Bay-Delta Program.

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